WHAT IS CLAIMED IS:

1. A method of encoding digital information in a system, the method comprising:

(a) receiving a sequence of data words, wherein each data word has a running digital sum (RDS); and

(b) encoding the sequence of data words into a sequence of corresponding code words, which has a current RDS, wherein encoding comprises for each data word, adding a binary symbol to the data word and selectively complementing the data word as a function of the RDS of the data word and the current RDS of the sequence of code words, to form the corresponding code word.

2. The method of claim 1 and further comprising:

(c) updating the current RDS of the sequence of code words after forming the corresponding code word for one of the data words and before encoding a next subsequent one of the data words in the sequence of data words; and

(d) concatenating the corresponding code word to the sequence of code words.

3. The method of claim 1 wherein selectively complementing comprises selectively complementing the data words as a function of a comparison between a sign of the RDS of the data word and a sign of the current RDS of the sequence of code words.

4. The method of claim 1 wherein selectively complementing comprises:

(b)(1) mapping the data word unchanged into the corresponding code word if a sign of the RDS of the data word is different than a sign of the current RDS of the sequence of code words; and

(b)(2) complementing the data word if the sign of the RDS of the data word is the same as the sign of the current RDS of the sequence of code words.

5. The method of claim 4 wherein adding a binary symbol to the data word comprises adding a binary "0" to the data word in (b)(1) and adding a binary "1" to the data word in (b)(2).

6. The method of claim 1 wherein selectively complementing comprises selectively complementing the binary symbol with the data word as a function of the RDS of the data word and the current RDS of the sequence of code words, to form the corresponding code word.

7. The method of claim 6 wherein selectively complementing comprises mapping the data word and the binary symbol unchanged into the corresponding code word if a sign of the RDS of the data word is different than a sign of the current RDS of the sequence of code words and complementing the data word and the binary symbol if the sign of the RDS of the data word is the same as the sign of the current RDS of the sequence of code words.

8. The method of claim 1 wherein:

(a) comprises parsing the sequence of data words into n-bit data words; and

(b) comprises encoding the sequence of n-bit data words into a sequence of corresponding (n+1)-bit code words such that the current RDS remains less than or equal to n+1.

9. An encoder for encoding digital information, the encoder comprising:

an input for receiving a sequence of data words, wherein each data word has a running digital sum (RDS); and

encoding means for encoding the sequence of data words into a sequence of successive code words, which has a current RDS, wherein for each of the data words, the encoding means adds a binary symbol to the data word and selectively complements the data word as a function of the RDS of the data word and the current RDS of the sequence of code words, to form the corresponding code word.

10. The encoder of claim 9 wherein the encoding means further comprises:

means for updating the current RDS of the sequence of code words after forming the corresponding code word for one of the data words and before encoding a next subsequent one of the data words in the sequence of data words; and

means for concatenating the corresponding code word to the sequence of code words.

11. The encoder of claim 9 wherein the encoding means further comprises means for selectively complementing the data words as a function of a comparison between a sign of the RDS of the data word and a sign of the current RDS of the sequence of code words.

12. The encoder of claim 9 wherein the encoding means comprises:

means for mapping the data word unchanged into the corresponding code word if a sign of the RDS of the data word is different than a sign of the current RDS of the sequence of code words; and

means for complementing the data word if the sign of the RDS of the data word is the same as the sign of the current RDS of the sequence of code words.

13. The encoder of claim 9 wherein the binary symbol added to the data word by the encoding means has a binary "0" state if a sign of the RDS of the data word is different than a sign of the current RDS of the sequence of code words and has a binary "1" state if the sign of the RDS of the data word is the same as the sign of the current RDS of the sequence of code words.

14. The encoder of claim 9 wherein the encoding means selectively complements the binary symbol with the data word as a function of the RDS of the data word and the current RDS of the sequence of code words, to form the corresponding code word.

15. The encoder of claim 14 wherein the encoding means adds adding the binary symbol to the data word, maps the data word and the binary symbol unchanged into the corresponding code word if a sign of the RDS of the data word is different than a sign of the current RDS of the sequence of code words;, and complements the data word and the binary symbol if the sign of the RDS of

the data word is the same as the sign of the current RDS of the sequence of code words.

16. The encoder of claim 9 wherein the encoding means parses the sequence of data words into n-bit data words and encodes the sequence of n-bit data words into a sequence of corresponding (n+1)-bit code words such that the current RDS remains less than or equal to n+1.

17. A method of decoding digital information in a system, the method comprising:

(a) receiving a sequence of code words, wherein each code word comprises an encoded data word and an indicator bit; and

(b) decoding the sequence of successive code words into a sequence of successive data words according to a code in which the encoded data word is extracted unchanged into an uncoded user data word if the indicator bit has a first binary value and is extracted into the uncoded user data word and then complemented if the indicator bit has a second, opposite binary value.

18. The method of claim 15 (a) comprises receiving the sequence of code words, and parsing the sequence into successive (n+1)-bit code words, wherein n is a positive integer and the sequence of code words has a running digital sum that is less than or equal to n+1.